

WE CLAIM:

1. A programmable object model for an Extensible Markup Language (XML) schema validation system, comprising:
 - an application programming interface for allowing a user to
 - 5 programmatically access the functionality of the schema validation system;
 - the application programming interface comprising a message call for requesting association of an XML schema file to a document; and
 - the application programming interface operative to receive a return value from the schema validation system responsive to association of the XML schema file to
 - 10 the document.
2. The programmable object model of Claim 1,
 - said application programming interface further comprising a message call for requesting customization of one or more properties of the XML schema file; and
 - the application programming interface further operative to receive a
 - 15 return value from the schema validation system responsive to the message call for requesting customization of the one or more properties of the XML schema file.
3. A programmable object model for an Extensible Markup Language (XML) schema validation system, comprising:
 - an application programming interface for allowing a user to
 - 20 programmatically access the functionality of the schema validation system;
 - the application programming interface comprising a message call for providing one or more parameters to the schema validation system for customizing the schema validation system with user-defined functionality; and
 - the application programming interface operative to receive a return value
 - 25 from the schema validation system responsive to customization of the schema validation system with the user-defined functionality.

4. A method for programmatically accessing the functionality of an Extensible Markup Language (XML) schema validation system, comprising:
- calling the schema validation system via an object-oriented message call;
 - passing an object property to the schema validation system, the object
- 5 property being associated with a software object associated with the functionality of the schema validation system; and
- in response to the message call and the object property passed to the schema validation system, receiving access to a functionality of the schema validation system associated with the object property passed to the schema validation system.
- 10 5. The method of Claim 4, whereby passing the object property to the schema validation system includes passing a child node suggestions property for obtaining a list of all XML elements suggested by an application program based on an XML schema file associated with a document and based on an editing context within the document.
- 15 6. The method of Claim 4, whereby passing an object property to the schema validation system includes passing an object property for returning a list of all XML schema files associated with a document.
- 20 7. The method of Claim 4, whereby passing an object property to the schema validation system includes passing an object property for obtaining a list of all XML elements in a document associated with an XML schema violation based on an associated XML schema file.
- 25 8. The method of Claim 4, whereby passing an object property to the schema validation system includes passing an object property for determining a format of error messages presented by the schema validation system related to schema file validations.

9. The method of Claim 4, whereby passing an object property to the schema validation system includes passing an object method or accessing one or more individual members of an XML child node suggestions collection as defined by an associated XML schema file and current editing context within a document associated
5 with the XML schema file.

10. The method of Claim 4, whereby passing an object property to the schema validation system includes passing an object method for inserting an XML element into a document whereby the object method includes a range parameter for pointing to a part of the document where the XML element is to be inserted.

10 11. The method of Claim 10, whereby passing an object property to the schema validation system includes passing an object property for returning a uniform resource identifier identifying an XML schema file associated with the XML element inserted into the document.

12. The method of Claim 4, whereby passing an object property to the
15 schema validation system includes passing an object method for customizing schema validation error notifications from the schema validation system.

13. The method of Claim 4, whereby passing an object property to the schema validation system includes passing an object method for requesting validation of a specified XML element applied to a document.

20 14. The method of Claim 4, whereby passing an object property to the schema validation system includes passing an object property for returning a description text of a specified XML schema violation for a specified XML element applied to a document.

15. The method of Claim 4, whereby passing an object property to the schema validation system includes passing an object method for attaching a user-specified XML schema file to a document.

5 16. The method of Claim 4, whereby passing an object property to the schema validation system includes passing an object property for directing the schema validation system to allow saving a document as an XML document where saving the document as an XML document violates an associated XML schema file.

10 17. The method of Claim 4, whereby passing an object property to the schema validation system includes passing an object property for causing the schema validation system to allow mixed content data entry into a document where the mixed content data entry otherwise violates an associated XML schema file.

15 18. The method of Claim 4, whereby passing an object property to the schema validation system includes passing an object method for accessing a specified XML schema file associated with a document from a collection of XML schema file references whereby a parameter associated with the specified XML schema reference is passed to the schema validation system with the object method.

19. The method of Claim 4, whereby passing an object property to the schema validation system includes passing an object property for controlling whether XML schema violations are highlighted in a document by the schema validation system.

20 20. The method of Claim 4, whereby passing an object property to the schema validation system includes passing an object method requiring the schema validation system to validate a document against all XML schema files associated with the document.

25 21. The method of Claim 4, whereby passing an object property to the schema validation system includes passing an object property for removing an XML

schema file reference from a document and for removing the XML schema file reference from a schema file references collection.

22. The method of Claim 4, whereby passing an object property to the schema validation system includes passing an object property for returning a location of
5 a specified XML schema file.

23. The method of Claim 4, whereby passing an object property to the schema validation system includes passing an object property for returning a Namespace uniform resource identifier associated with a specified XML schema file.

24. The method of Claim 4, whereby passing an object property to the
10 schema validation system includes passing an object method to the schema validation system for re-associating a specified schema file with a document where the specified schema file was previously removed from association with the document.